

Remarks/Arguments:

Claims 1-3, 6-12, and 14-27 are identified as pending in the Office Action dated January 9, 2008, with all pending claims rejected. In an Amendment filed on April 8, 2008, applicants amended claims 2, 3, 6, 8-9, 12, 14, 16, 17, 19, and 21-27 and added claims 28-33. Applicants herein amend claims 1, 7, 10, 15, 18, 20, 23, and 25 and add new claims 34 and 35. No new matter is added. Applicants respectfully request reconsideration in view of the amendments presented herein and in the Amendment filed on April 8, 2008 and the following remarks.

Telephonic Interview

Applicants appreciate the courtesies extended by the Examiner during an Examiner Interview on April 24, 2008. During the Examiner Interview, the Amendment filed on April 8, 2008 was discussed along with U.S. Patent Application Publication No. 2006/0176850 to Gan et al. (Gan). Although agreement on the claims was not reached, the Examiner indicated that the features disclosed in newly added claims 28-33 were not taught by Gan. Additionally, the rejection under 35 U.S.C. § 101 was discussed. The Examiner indicated that the rejection may be overcome by amending the specification to remove the reference to carrier waves as a type of computer readable medium.

Claim Objections

Claims 2, 3, 6, 8, 9, 12, 14, 16, 17, 19, 21, 22, 24, 26, and 27 are objected to because of informalities.

As set forth in the Amendment filed on April 8, 2008, regarding claims 2-3, 6, 8, 9, 12, 14, 17, 19, 21, 22, 24, 26, and 27 the Office Action recites "the phrase 'the first band' and the phrase 'the second band' lack antecedent basis." With respect to claims 8, 21, and 26, the applicants respectfully disagree. These claims each refer to "first band bit streams" and "second band bit streams." Antecedent basis for these phrases are found in the respective independent claim from which these claims depend. Accordingly, applicants respectfully request that the objection to claims 8, 21, and 26 regarding the phrase "the first band" and the phrase "the second band" as lacking antecedent basis be withdrawn. With respect to claims 2-3, 6, 9, 12, 14, 17, 19, 22, 24, and 27, the applicants believe the

amendments made to these claims in the Amendment filed on April 8, 2008 remedy the lack of antecedent basis.

As further set forth in the Amendment filed on April 8, 2008 regarding claims 8, 9, 16, 21, 22, and 26, the Office Action recites "the phrase 'the portion of the input bit stream' lacks antecedent basis." Applicants amended claims 8, 9, 16, 21, 22, and 26 in the Amendment filed on April 8, 2008 to remedy the lack of antecedent basis for the phrase "the portion of the input bit stream." Accordingly, applicants respectfully request that the objection to claims 8, 9, 16, 21, 22, and 26 for lack of antecedent basis based on the phrase "the portion of the input bit stream" be withdrawn.

Claim Rejections Under 35 U.S.C. § 101

The Office Action recites that "Claims 23-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter." Applicants herein amend the specification to remove the reference to carrier waves in accordance the Examiner's suggestion in the telephonic interview on April 24, 2008. Applicants contend that claims 23-27 are directed to statutory subject matter and respectfully request that the rejection under 35 U.S.C. § 101 be withdrawn.

Claim Rejections Under 35 U.S.C. § 102

The Office Action recites that "Claims 1, 3, 6-7, 9-10, 12, 14-15, 18-20, and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Gan et al (US 2006/176850)." Applicants contend that the claims are allowable over Gan et al. (Gan). Claim 1 includes at least one feature that is not disclosed, taught, or suggested by Gan. Claim 1 is directed to a method for use in a communication system utilizing multiple bands. The method includes the following features:

mapping a bit stream to the multiple bands in a first band order;

mapping the bit stream to the multiple bands in a second band order that is different than the first band order; and

transmitting the bit stream in the first band order and the bit stream in the second band order for receipt by a receiver without changing a transmission frequency band of the multiple bands.

This means that the bit stream within the data stream is mapped to the multiple bands in a first band order and the bit stream is also mapped to the multiple bands in a second band order that is different than the first band order. The bit stream is then transmitted in both the first band order and the second band order without changing a transmission frequency band of the multiple bands. See paragraphs [0031], [0034], and [0035].

The Office Action relies on Gan to teach these features. In particular, the Office Action refers to paragraphs [0056], [0062], [0111], and [0112] of Gan.

Paragraph [0056] of Gan recites:

A novel approach for managing network communications generally involves selecting sets of communications bands based on **channel performance**. An initial set of channels is selected based on one or more selection criteria at the start-up of the communications network. **Additional sets of channels are then periodically selected to adaptively avoid interference.** (Emphasis added.)

and paragraph [0062] of Gan recites:

In block 122, a new set of communications channels is selected based on the **channel performance** determined in block 118 in a manner similar to that of block 114 above. For example, the new set of channels may be based on **selecting channels that are good** when the additional testing of block 118 is performed. The new set of channels may be different than the good channels selected in block 112 because new interference typically may be present from other systems that were not being used at the time of the first testing of block 110 or that were not in sufficient proximity at the time of the first testing of block 110 to cause sufficient interference to result in the channels being classified as bad. (Emphasis added.)

These paragraphs indicate that channels are selected for an initial communication and that different channels are selected based on channel performance for a subsequent communication to avoid interference. Thus, transmission frequency bands are changed.

Paragraphs [0111] and [0112] of Gan recite:

According to another embodiment of the invention, a cyclic redundancy check (CRC) is used to test the performance of communications channels. The CRC may be a check of either the payload of the packet or the complete contents of the packet, depending on the communications system protocol

being used. As an example, in Bluetooth and IEEE 802.15.1, the data packet must pass a CRC check, otherwise the packet must be retransmitted. **A retransmission request (RR) indicates poor channel performance.**

Use of the CRC approach may be well suited for continuous **monitoring of channel performance**, such as the ongoing monitoring of a selected set of communications channels, because no special packets are required and therefore the overhead is relatively low compared to other approaches that require additional packets. However, the result of each measurement is whether there is a retransmission request or not, thus providing limited granularity because a one bit error provides the same result of a lost packet and a multiple bit error. However, as compared to other types of data checks, the CRC provides more bits for testing because either the payload or the entire packet is used to check errors, instead of just a portion of the packet (e.g., just the header for HEC). (Emphasis added.)

These paragraphs indicate that retransmission occurs when poor channel performance is detected. Thus, this merely provides an indicator of poor channel performance, which presumably may be used to avoid selection of those channels for subsequent transmissions as set forth in paragraphs [0056] and [0062]. This is the type of system that is described in the background of the application as originally filed at paragraphs [0005] and [0006]. Thus, Gan describes a system that is unlike the claimed invention as set forth in claim 1 in which a bit stream is mapped to multiple bands in a first band order and to multiple bands in a second (different) band order without changing a transmission frequency band of the multiple bands.

Accordingly, for the reasons discussed above, applicants respectfully submit that Gan fails to disclose, teach, or suggest each and every limitation of claim 1 and, thus, respectfully request that the rejection of claim 1 be withdrawn.

Claims 7, 10, 15, 18, 20, 23, and 25, while not identical to claim 1, include features similar to those found in claim 1. Accordingly, applicants respectfully submit that claims 7, 10, 15, 18, 20, 23, and 25 are allowable for at least the reasons that claim 1 is allowable.

Claims 3, 6, 9, 12, 14, 19, and 24 each depend from one of claims 1, 7, 10, 15, 18, 20, 23, and 25 and, thus, include all the limitations of the respective claim from which it depends. Accordingly, applicants contend that claims 3, 6, 9, 12, 14, 19, and 24 are allowable for at least the reasons set forth above that claims 1, 7, 10, 15, 18, 20, 23, and

25 are allowable. Thus, applicants respectfully request that the rejection of claims 3, 6, 9, 12, 14, 19, and 24 be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

The Office Action recites that "Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gan et al, and further in view of Ho (US 2004/0170217)" and that "claims 8, 16-17, 21-22, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gan et al, and further in view of Son et al (US 2003/0189892)." Claims 2, 8, 11, 16-17, 21-22, and 26-27 each depend from one of claims 1, 7, 15, 20, and 25 and, therefore, include all of the features and limitations of the independent claim from which they depend. The feature that was found to be lacking in Gan with reference to these claims is not found in Ho or Son; namely, mapping a bit stream to multiple bands in a first band order, mapping the bit stream to those multiple bands in a second band order that is different than the first band order, and transmitting the bit stream in the first band order and in the second band order without changing a transmission frequency band. Thus, Ho and Son fail to make up for the deficiencies of Gan. Accordingly, applicants contend that claims 2, 8, 11, 16-17, 21-22, and 26-27 are allowable and, therefore, respectfully request withdrawal of the rejection of these claims.

Newly Added Claims

In addition to claims 28-33 added by the Amendment filed on April 8, 2008, applicants now add claims 34 and 35. Claim 34 recites that "in the transmitting step [claim 1], a first frequency band for transmitting the bit stream in the first band order and a second frequency band for transmitting the bit stream in the second band order are the same frequency band" and claim 35 recites that "in the transmitting step [claim 1], a first frequency band for transmitting the bit stream in the first band order and a second frequency band for transmitting the bit stream in the second band order are adjacent frequency bands." Basis for these new claims may be found throughout the specification as originally filed. For example, see paragraphs [0031], [0034], and [0035]. The references relied on fail to disclose, teach, or suggest these features. Accordingly, applicants respectfully request that newly added claims 34 and 35 be allowed.

Conclusion

In view of the amendments and remarks set forth above, applicants respectfully submit that claims 1-3, 6-12, and 14-35 are in condition for allowance. Notification to that effect is earnestly solicited.

Respectfully submitted,

RatnerPrestia



Kenneth N. Nigon, Reg. No. 31,549
Stephen J. Weed, Reg. No. 45,202
Attorneys for Applicants

SJW/kpc

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P. O. Box 980
Valley Forge, PA 19482
610-407-0700

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